

REMARKS

Claims 1-18 are pending in the application. Claims 15-18 are allowed and claims 1-14 are rejected.

The specification, page 22, lines 14-16 objected to as being unclear. Based upon the original specification, this sentence has been amended to clarify this paragraph.

The present invention relates to an interference canceller device for a DS-CDMA communication system including low-rate channels and high-rate channels.

Applicant's claimed invention is different from the prior art because an interference replicating unit for the high-rate channels for creating interference replicas of the high-rate channels from received signals; and an adder for subtracting only the interference replicas of the high-rate channels from the received signals.

Thus interference of the high-rate channels having high transmission power is reduced and the transmission quality of the low-rate channels is prevented from being degraded without requiring an interference replicating unit for the low-rate channels.

Claims 1-5 are rejected under 35 U.S.C. § 102(a) as being anticipated by applicant's admitted prior art.

Applicant's Fig. 10 shows the interference replicating units provided for each channel including low-rate channels and high-rate channels. The output signals of the replicating units are provided to adder 104 thereby subtracting the interference replicas from the received signal.

Applicant's claim 1 is different because it recites creating interference replicas of the high-rate channels from received signals; and an adder for subtracting only the interference replicas of the high-rate channels from the received signals.

Thus the prior art teaches subtracting the interference replicas including low-rate channels and high-rate channels from the received signal, whereas applicant's claimed invention teaches subtracting only the interference replicas of the high-rate channels from the received signals.

Claims 2-5 depend from claim 1 and provide additional distinguishing features. For at least the foregoing reasons it is respectfully requested the rejection of claims 1-5 be withdrawn.

Claims 6-8, 11-13 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sawahashi et al. (Sawahashi).

With regard to claim 6, Sawahashi shows a CDMA demodulating apparatus with an interference canceling unit. Sawahashi describes in column 13, starting at line 24 the ICU is provided in the number of users, number of stages.

Sawahashi describes the interference replicating units for each channel, whereas applicant uses the interference replica units in only the high rate channels and the resultant output signals of the adders in applicant's invention are applied to the user receivers of the low rate channels.

In particular Applicant's claim 6 recites: an interference replicating unit associated with the high-rate channels for creating interference replicas of the high-rate channels from received signals and an adder for subtracting only the interference replicas of the high-rate channels from the received signals producing interference-eliminated signals; and a receiver for the low-rate channels for performing demodulation on the interference-eliminated signals.

Claim 11 provides subtracting only the interference replicas of the high-rate channels from the received signals for the high rate channels producing interference-eliminated signals.

Claims 7-8 and 12-13 depend from claim 6 and 11 respectively and provide additional distinguishing features. For at least the foregoing reasons it is respectfully requested the rejection of claims 6-8, 11-13 be withdrawn.

Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Sawahashi and applicant's admitted prior art. Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawahashi in view of Forssen et al.

With regard to claims 9 and 10, as pointed out above, neither Sawahashi nor the admitted prior art teach the creating interference replicas of the high-rate channels from received signals and an adder for subtracting only the interference replicas of the high-rate channels from the received signals producing interference-eliminated signals; and a receiver for the low-rate channels performing demodulation on the interference-eliminated signals.

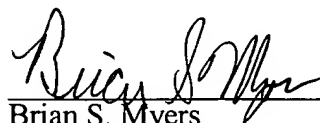
With regard to claim 14 neither Sawahashi nor Forssen et al. teach or suggest the interference replicating unit is associated with the high-rate channels for creating only interference replicas of the high-rate channels from received signals.

For at least the foregoing reasons it is respectfully requested the rejection of claims 9, 10 and 14 be withdrawn.

In view of the remarks set forth above, this application is in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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